

REMARKS

Prior to this amendment, claims 1-54 were pending with claims 37-54 being withdrawn from consideration. In this communication, we have amended claims 1, 25-27, and 36, cancelled claims 24, 35, and 37-54, and added new claims 55-64. Accordingly, claims 1-23, 25-34, 36, and 55-64 are presented, with claims 1, 27, and 55 being in independent form.

Election/Restrictions

We confirm election of originally filed claims 1-36. The election is made without traverse.

Drawings

We have submitted formal drawings with this amendment. Applicants believe the formal drawings are in compliance with 37 CFR 1.121(d) and ask that the objection to the drawings be withdrawn.

Claim Rejections

In this communication, we have amended independent claim 1 to include the limitation of originally-filed claim 24 and have amended claim 27 to include the limitation of originally-filed claim 35. As amended, these claims are respectively directed to photonic crystal fiber waveguides and to methods that include guiding radiation through a photonic crystal fiber waveguide.

The office action rejected originally-filed claims 24 and 35 under 35 USC §102(b) as being anticipated by EP 060085 ("Katsuyama"). In rejecting these claims, the action does not indicate where Katsuyama discloses a photonic crystal fiber waveguide or guiding radiation through a photonic crystal fiber waveguide, but states that "the structure disclosed by Katsuyama is that of a Bragg fiber as it comprises a confinement region including multiple layers of different composition" (Office Action, page 5). However, the action does not indicate where Katsuyama discloses a waveguide having such structure. Nor could we find any such disclosure in

Katsuyama. To the contrary, in our view, Katsuyama discloses waveguide structures corresponding to conventional optical fibers that “utilize total reflection at the interface between [a] core and [a] clad to transmit beams” (Katsuyama, page 2, lines 7-11) and to hollow fibers that transmit “[a] large number of pseudo-transmitted modes (leaky modes)” (id., page 5, lines 19-21). Neither the optical fibers nor the hollow fibers are photonic crystal fibers. Accordingly, we submit that Katsuyama does not disclose or suggest photonic crystal fiber waveguides or methods that include guiding radiation through a photonic crystal fiber waveguide. Thus, in our view, as amended, claim 1 and claim 27 are patentable in view of Katsuyama and we ask that the prior art rejection of these claims be withdrawn.

Claims 2-23, 26-34, and 36 depend from claim 1 or claim 27 or from claims that depend from claims 1 or 27. Accordingly, claims 2-23, 26-34, and 36 should be patentable in view of Katsuyama for at least those reasons set forth above in connection with claims 1 and 27. We ask that the prior art rejections of claim 2-23, 26-34, and 36 be withdrawn.

New Claims

We have added new independent claim 55 which is directed to waveguides that include “a first portion extending along a waveguide axis comprising a first chalcogenide glass; and a second portion extending along the waveguide axis and surrounding the first portion, the second portion comprising a second chalcogenide glass, wherein the second chalcogenide glass has a refractive index higher than a refractive index of the first chalcogenide glass.”

As discussed above, Katsuyama discloses optical fibers and hollow fibers that transmit leaky modes. According to Katsuyama, “[an] optical fiber is in such a structure that the core is made from a material of higher refractive index than that for the clad surrounding the core” (id., page 2, lines 7-9). The hollow fibers on the other hand, “can be obtained by making the clad from chalcogenide glass of high refractive index ... while using air as the core” (id., page 5, lines 17-19). Thus, neither the optical fibers nor the hollow fibers disclosed by Katsuyama include “a second portion ... surrounding [a] first portion [comprising a first chalcogenide glass], the second portion comprising a second chalcogenide glass, wherein the second chalcogenide glass

has a refractive index higher than a refractive index of the first chalcogenide glass.”

Accordingly, we submit that claim 55 is patentable in view of Katsuyama and we ask that this claim be allowed.

New claims 56-64 depend from claim 55 or from claims that depend from claim 55 and should be allowable for the same reasons as claim 55. We ask that these claims also be allowed.

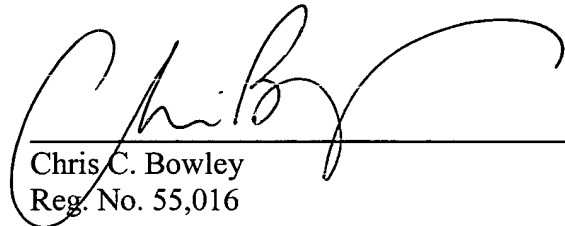
Conclusion

Applicants submit that all pending claims are in condition for allowance, which action is requested.

Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 13445-022001.

Respectfully submitted,

Date: 9/8/2005


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